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SIR ISAAC NEWTON

AND

England's Prohibitive Tariff  
upon Silver Money.

AN OPEN LETTER TO PROF. W. STANLEY JEVONS,  
L.L.D. (EDINB.), M.A. (LOND.), F.R.S., PROFESSOR  
OF POLITICAL ECONOMY IN UNIVERSITY  
COLLEGE, LONDON, ETC., ETC.

BY

S. DANA HORTON,

*M. A., Counselor at Law, author of "Silver and Gold and their Relation to the Problem of Resumption;" "The Monetary Situation and other Papers;" "Contributions to the Study of Monetary Policy," etc.; late Delegate of the United States to the International Monetary Conference of 1878.*

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In an article<sup>1</sup> in a late number of the *Contemporary Review*, Professor W. S. Jevons raises in curiously interesting form the question of the nationality of Political Economy.

What was the first important Treatise on Economics, and of what country was its author native?

The analysis given by Prof. Jevons of the *Essai sur la nature de commerce en général*, a work purporting to be a translation from the English, but which was first printed, so far as known, in French, in 1755, ostensibly in London, but presumably in Paris, appears fully to justify the learned writer in his ascription of the primacy in economics to it and to its author.

Accepting, therefore, as correct the judgment that this treatise is the veritable "cradle of Economics," speculation follows with zest the query whether this cradle was framed by some great Frenchman who, beside veiling his authorship through other pretenses, effectively sheltered himself under another's name, or whether its author was an Irishman, one of the family of the Cantillons of Ballehague in the County of Kerry, who lived in Paris as a merchant, and was murdered in London in 1734. At what time, indeed, could such a question excite greater interest than now, when "Young

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<sup>1</sup> "Richard Cantillon and the Nationality of Political Economy." By Professor W. Stanley Jevons, *Contemporary Review*, London, January, 1881.

Ireland" is awakening to a due appreciation of so distinguished an intellectual ancestor.

In seeking lately the amusement of following to its matter the attractive title of this article, I was not a little surprised to find myself, among others, called upon by name, and, so to speak, confronted with Richard Cantillon (whom I will assume, on Prof. Jevons' authority, to have been the author of the *Essai*), certain passages of his work bearing upon England's monetary policy, being by the author of the article recommended to our attention.

It is a long way from the banks of the Thames to those of the Ohio. I recall accepting an analogous challenge some years since from that distinguished monetary statesman, the late Mr. Feer-Herzog, of Switzerland, but it was to an oral debate across the Council Board of the International Monetary Conference in Paris; and it was to preclude the further necessity of such divergences of view, arising as they usually do from the current misconceptions of the facts of England's Monetary History, that I caused to be printed in the Document of that Conference<sup>2</sup> what might serve as a partial Documentary History of English Monetary Policy. This contribution to monetary literature not having, however, availed to attract or to arrest the attention of Prof. Jevons, it may perhaps be fairly said of his challenge, in favor of answering it, that *vires acquirit eundo*. I may add that if this view be shared by Dr. Van den Berg, President of the National Bank of Java, we may also look for a rejoinder to Prof. Jevons from the region of the Spice Islands, he being, like myself, cited to the question, as being, I suppose, in the eyes of the author of the article, another heresiarch in *partibus infidelium*.

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<sup>2</sup> Document of the International Monetary Conference of 1878. Washington, 1879, 918 pp. This, like other public documents, was printed by the Government for gratuitous distribution. The edition was 14,000, and copies are, I believe, still to be had (by mail) on application to the Department of State, Washington, D. C.



Curiously enough, it is in my power to dispense with an examination of those portions of the "cradle of Economics" so kindly commended to me by Prof. Jevons, and that, on the ground that they have been known to me for some years. In my reading, preparatory to printing in 1876, a Treatise on Silver and Gold,<sup>3</sup> I had occasion to read the writings<sup>4</sup> of a younger contemporary of Cantillon in Germany, John Philip Graumann, who was in his time the Privy Councillor in matters monetary of Frederick the Great. In his Letters on Money, dealing with the Monetary System of England, Graumann translates in full the entire body of passages relating to Money, which Prof. Jevons reproduces in his article. "The English author," says Graumann, "of the *Essai sur la nature*

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<sup>3</sup> Silver and Gold and their Relation to the Problem of Resumption, Cincinnati, Robert Clarke & Co.

In order to preclude any misunderstanding concerning the point of view from which I approach the question raised by Prof. Jevons, I may state here that the practical conclusions set forth in the closing chapter of this Treatise (in holding which I was then, so far as I knew, in a minority of one), were that while it was to the interest of Europe and of Asia, but notably of England, that Silver be established as money by concurrent action of the nations, and while it was likewise to the interest of the United States that this be done, the true policy for the latter country was actively to promote the establishment of a Bi-metallic Union, but to refuse to coin any Silver at all until it should be formed: thus leaving Europe to feel the full consequences of its persecution of Silver.

This policy was substantially adopted by the United States in 1878, by the much misunderstood Allison Bill, the substitute for the "Bland Bill," which was passed over Mr. Hayes' veto.

That in the then temper of Congress such a solution of the question was reached is chiefly due to the statesmanship of Mr. Allison (Senator from Iowa), who, aware of the strength of the party of Free Coinage of Silver, and of the danger, as well as the likelihood, of their carrying the day, foiled and disarmed them through a limitation of the proposed coinage of Silver (thus deferring for years the danger of a too great accumulation of Silver Coin), and, at the same time, by instituting the Monetary Conference of 1878, committed the country to an active propaganda of scientific Bi-metallism in other nations.

<sup>4</sup> Johann Philip Graumann, *Gesammelte Briefe von dem Gelde, von dem Wechsel und dessen Cours, von der Proportion zwischen Gold und Silber*, etc. Berlin, Voss, 1762.

*de commerce en général* takes a different view from Newton," concerning points which I shall set forth at the close of this paper; and in order to explain the situation in full, he reproduces withal, in German, Newton's entire report. Elsewhere, Graumann again refers to the *Essai*, apparently ascribing to the work, whose claims Prof. Jevons puts forward so convincingly, an importance approaching that which was accorded to it by the French economists of that day. I have the pleasure, therefore, while disclaiming any indebtedness to the article on the score of information upon Newton or Cantillon's expressions about Money, at least of adding my stone to the cairn which its writer builds to the framer of the cradle of Political Economy. I may further add here, as being possibly a matter of interest, that an error of date in the *Essai*, which Prof. Jevons finds it difficult to explain—namely, 1728 given as the year of the fixation of the ratio, instead of 1717—occurs also in one of Sir James Steuart's Monetary Papers, and, if my memory serves me rightly, in some other English author, whose name I do not recall. I have never been able to find any explanation of it.

The point which Prof. Jevons commends to our attention is the alleged emneciation, not only on the part of the author of the *Essai*, but also (through inference deduced from Cantillon's statements), as coming from the mouth of no less a personage than Sir Isaac Newton, speaking withal *ex cathedra*, not only as Master of the Mint, but as Monetary Counselor of the British Parliament, of what Prof. Jevons calls "a distinct disclaimer of Bi-metallism."

We see then that the Gold Standard is challenging Bi-metallism to a new field: the Battle of the Standards is for a moment to be removed from the dusty arena of the prejudices and interests of to-day, and to be rehearsed in ghostly armor on the shadowy plains of history. The motive and effects of England's Monetary Legislation of 1717-18; the views of

Newton in 1717, and of Cantillon before 1734, these are, if a perversion of the Virgilian phrase can be endured, the "arms and the men we sing."

In accepting this invitation to learn well the lessons which this space in the history of monetary action and of monetary opinion may have to teach, and as a part of my effort to recite these lessons, it is but simple duty to historic truth that I request my opponent to accept from me a protest against, or a correction of, a use of words on his part which, without some corrective, can hardly fail to be misleading to many of those under whose notice it may come. I refer to his transferring the word "Bi-metallism" from its habitat in the controversies of to-day to those of a century and a half ago. It is improbable that Prof. Jevons' readers can be fully aware, as he must be, that "Bi-metallism" is an "ism" of to-day: the intellectual product of a few men, all of whom, except Louis Wolowski, who died in 1876, are now living. And yet, such being the case, it is only by a metaphor which to them may well be misleading, that a thinker of a hundred and fifty years ago can be said either to have entertained or to have disclaimed Bi-metallism. Failing in this knowledge, the reader is in fact encouraged, by this anachronistic locution, to ignore the scope of the questions at issue in the controversies of to-day.

But apart from this caution, it is probably unwise to expect of the general reader a sufficient familiarity with these controversies to enable him to keep in their true perspective the historical issues to which Prof. Jevons has called our attention: and hence I may fruitfully serve his convenience by a prefatory outline of their practical drift, special regard being had to their relation to English monetary policy.

Bi-metallism stands to-day for a body of doctrine (which, of course, I shall make no effort to present here), which seeks to displace doctrines which, up to within a few years, held the

allegiance of all economists, enshrined as they were in the monetary chapters of the standard works of economic science.

It is also a convenient name for a monetary policy based upon this doctrine, which seeks to replace the monetary policy for which the opposing doctrines are responsible.

And it is precisely the monetary system, distinctively and historically known as the English System, that is to say the system which has been known as such to this and to the preceding generation, having been in force since 1816, which is being displaced as the exemplar of monetary policy. This present English System, therefore, and the doctrines of its apologists are, in fact, on trial, so to speak, in an International Court of Monetary Opinion. The point at issue is, of course, not the often alleged confusion of numbers in the calculation of pounds, shillings, and pence, compared with the simplicity of the decimal system; nor any scheme of unification of the weights of coins in different nations. These matters are insignificant. It relates merely to the chief characteristic of the English System, namely, that under it Gold is, by law, a favorite, Silver an outlaw: the one being by force of statutes full legal tender, and freely coinable *gratis* to the full capacity of the mints; the other legal tender only up to 2*l*, and not coinable at all except to the extent of a trivial supply of light-weight Tokens. It is, therefore, the Single Gold Standard, this Prohibitive Tariff against Silver Money, which is the *corpus delicti*: and England's experience of it is naturally the chief source of historical information about it.

It is openly charged, with abundant documents of proof and justification,<sup>5</sup> that the Single Gold Standard was in its day a

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<sup>5</sup> I may be permitted to refer to a chapter on "The Example of England" in my "Silver and Gold," to debate between the late Mr. Feer-Herzog and myself, at the International Monetary Conference of 1878, and to a series of papers, in my "Contributions to the Study of Monetary Policy," in the Document of the Monetary Conference of 1878.

revolutionary innovation, which, in the transition period of its establishment in England, 1798-1830, did England more harm than good:

That the doctrinal basis which was then its motive, and afterward held to be its justification, was demonstrably unsound:

That the measure of practical success which from 1830 to 1875 has attended the working of the Gold Standard in England, is due, not to any intrinsic merit of the innovation, nor to any notable foresight of its founders, nor to any contemporaneous appreciation of the forces which were the controlling conditions of this measure of success, but was due to circumstances independent of England's control, and which were by their nature adventitious and temporary:

That the unsound theories which found their realization in this system were, in the expansion of economic literature, forced to an artificial growth of dogma, in the warmth with which professors of science accepted as a model the monetary system of the nation, which led the advance in wealth, in manufactures, and in foreign trade:

That these dogmas, having, through the earnest agitation of monetary reformers, attained consecration in 1867, at the hands of an International Monetary Conference, as establishing a goal for national and international legislation, and having, in 1871-3, with the general approval of scientific opinion, obtained the adherence of the German Empire to the Single Gold Standard (a measure which compelled other nations to close their mints to Silver, thus laying an embargo upon a part of the world's circulation), became thus responsible for serious evils which were felt and have left their traces throughout the world; the practical result of the application of these dogmas on a large scale being not merely those embarrassments incident to an abrupt divergence in the relative market ratios of Silver and Gold, which show themselves in



national regulation of Coinage and Legal Tender, but an appreciable portion of the evils of the years that have followed 1873, of the disturbance in the investments, production, and exchanges of the world, which is the natural concomitant of a general dislocation of the money prices of property.

It is against these dogmas, and against this policy, that Bi-metallism is a reaction.

Such being the scope of the issues at stake in "Bi-metallism," such the relation of the English Monetary System to them, the brevity of Prof. Jevons' appeal to English Monetary History in defense of the Single Gold Standard recalls the brevity of the title, or of the table of contents of a book: it need by no means imply a proportional unimportance in the points he presents, so far at least as concerns readers to whom precedents have binding force. To such friends of the existing order of things in England the alleged discovery set forth by Prof. Jevons that Bi-metallism was as antipathetic to Sir Isaac Newton and to the author of the *Cradle of Economics* as to Lord Liverpool, may well give that comfortable sense of reinforcement which accompanies the enlargement of the historic background of one's views. Of itself of course the point is of little moment. If the doctrine of Bi-metallists be true, it is adamant: it will turn the edge of the sturdy falchion of a Newton or a Cantillon as well as of the latten sword of a Liverpool. It is only as an encouragement to the defenders of the Gold Standard to persist in its defense, as an excuse to its supporters for refusing to reconsider the grounds of their faith, that such arguments as these become worthy of refutation.

We now come to the words of Cantillon and of his commentator. The following selected passages will sufficiently set forth the occasion of our inquiry. Prof. Jevons quotes from Cantillon as follows:

"It is the market price which decides the proportion of the value of gold to that of silver. On this is based the proportion which we give to pieces of gold and silver money. If the market price varies considerably, it is necessary to alter the proportion of the coins. If we neglect to do this, the circulation is thrown into confusion and disorder, and people will take the pieces of one or other metal at a higher price than that fixed by the Mint. An infinite number of examples of this are to be found in antiquity, but we have a quite recent one in England in the laws made for the Tower of London. The ounce of silver, eleven ounces fine, is there worth five shillings and two pence sterling; since the proportion of gold to silver (which has been fixed in imitation of Spain as 1 to 16) is fallen to 1 to 15 or 1 to 14½, the ounce of silver sold at five shillings and sixpence, while the gold guinea continued to have currency always at 21s. 6d. That caused people to carry away from England all the silver crowns, shillings and sixpences which were not worn by circulation. Silver money became so scarce in 1728 (mil sept cent. vingt huit), because there remained only the most worn pieces, that people were obliged to change a guinea at a loss of nearly five per cent. The embarrassment and confusion which that produced in commerce and the circulation, obliged the Treasury to request the celebrated Sir Isaac Newton, Master of the Mint at the Tower, to make a report on the means which he believed to be the most suitable for remedying this disorder.

"There was nothing so easy to do; it was only necessary to follow in the fabrication of silver coins at the Mint the market price of silver. In place of the proportion of gold to silver, which had for a long time been according to the laws and rules of the Mint at the Tower as 1 to 15½, it was only necessary to make the silver pieces lighter in the proportion of the market price, which had fallen below that of 1 to 15, and to go beyond the variation which the gold of Brazil annually causes in the proportion of the two metals. They might have established the money on the footing of 1 to 14½, as was done in 1725 in France, and as it will be necessary to do in England itself sooner or later."

"Here," says Prof. Jevons, "is a distinct prophecy of that which was carried into effect in 1815 at Lord Liverpool's recommendation, and which is still, and probably always will be, the fundamental point in the regulation of our metallic money. Cantillon goes on to explain that Newton took the opposite course, and Parliament followed his advice—namely, in diminishing the nominal value of the gold piece. This, he allows, equally adjusts the relative values of the pieces to the market price, but it is, notwithstanding, a less natural and advantageous method. He pointed out to Newton that by this measure England incurred a loss of £110,741 upon every £5,000,000 of capital which it owed to foreigners, and Newton's reply is given thus (p. 377): 'Monsieur Newton m'a dit pour réponse à cette objection, que suivant les loix fondamentales du Roïaume, l'argent blanc était la vraie et seule monnoie, et que comme telle, il ne la falloît pas altérer.' After giving some other refined arguments, Cantillon finally delivers his opinion against the double standard, saying (p. 380):

"Il n'y a que le prix du Marché qui puisse trouver la proportion de la valeur de l'or à l'argent, de même que toutes les proportions des valeurs. La réduction de M. Newton de la guinée à vingt-un schellings n'a été calculée que pour empêcher qu'on n'enlevât les espèces d'argent foibles et usées qui restent dans la circulation; elle n'étoit pas calculée pour fixer dans les monnaies d'or et d'argent la véritable proportion de leur prix, je veux dire par leur véritable proportion, celle qui est fixée par les prix du Marché. Ce prix est toujours la pierre de touche dans ces matières; les variations en sont assez lentes, pour donner le temps de régler les monnoies et empêcher les desordres dans la circulation.'

"If I read this remarkable passage aright," says Prof. Jevons, "it not only reaffirms Cantillon's opinion that it is futile to attempt to fix the proportion of gold and silver perpetually, but that Newton had himself no idea of attempting the impossibility. His reduction of the guinea was only 'calculated' to prevent the removal of the worn pieces which still remained in circulation—that is, to effect a matter of immediate practical importance. The bi-metallists having quoted Newton as on their side, Mr. Inglis Palgrave and other English economists have been anxious to know the real motives of Newton, which are not easy to gather from his official report. But in these remarks of Cantillon we actually seem to have the statement of an acquaintance of Newton, and a master of currency and finance, that he had discussed the subject with Newton, and that Newton's intention was 'not to fix in gold and silver moneys the veritable proportion of their price.'"

It is of this passage that Prof. Jevons says: "I take this to be a distinct disclaimer of Bi-metallism."

The reader will observe that if we merely repeat the words here translated from Cantillon, the question we are to examine takes the form, Was it intended by Newton and by the legislators of 1717 "to fix in Gold and Silver Moneys the veritable proportion of their price?" but that if we follow Prof. Jevons to a preceding sentence, in which he alludes to a passage of Cantillon which he qualifies as "remarkable," we must elevate this legislative fixation of which we are speaking from the ordinary lot of mortality to an immortality to which Parliamentary measures have seldom aspired: we must add to our question as first stated, the word "perpetually," and thus find ourselves inquiring, at the request of Prof. Jevons, whether it was intended in 1717 "to fix *perpetu-*

ally in Gold and Silver Moneys the veritable proportion of their price."

Prof. Jevons says that, "if he reads this remarkable passage aright, it not only reaffirms Cantillon's opinion that it was futile to attempt this, but that Newton himself had no idea of attempting the impossibility."

There is something here which is quite remarkable, but it does not come from Cantillon nor from Newton; it comes from Prof. Jevons. Whence this idea of perpetuity? Who originated this notion of the eternity of a fixation made by law; this solution of the problem of perpetual motion decreed by a monetary statute? Is it possible that Prof. Jevons has heard of any one who seriously thought he had solved this problem? If so, let me ask who is he; what is his origin; nay, what is the nationality of this abnormal product of the evolution of political economy? Is he an Irishman, or is he a Frenchman, or an Englishman?

American he is not.

As an original promoter of Bi-metallic Union in the country which proposed it to Christendom, I must smilingly but firmly reject for my countrymen the distinction of having sought immortality or perpetuity in that particular direction. I may, therefore, be permitted to say that if Prof. Jevons will look about him for the head which this cap will fit, and upon ascertaining either that there is or there is not such a person in existence, will announce the fact to the world, he will add to the obligations under which he has already laid the student of Money. In the meantime, we can safely here decline further to entertain the question of perpetuity.

Eliminating, therefore, this idea, which must have received expression from Prof. Jevons either through an oversight or through a misconception of the views of his opponents, which is not entirely without precedent,<sup>6</sup> we see before us

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<sup>6</sup> Apropos of the supposed universality of the fixed ratio proposed by

the question as it must have occurred in fact to the legislators of 1717, and we accordingly inquire, Was it Newton's idea that to fix the guinea as the lawful equivalent of twenty-one silver shillings was to make the English ratio conform to the "veritable," that is to say, the correct and actual ratio between the metals in the bullion mar-

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Bi-metallists, and without reference to perpetuity in time, I may mention "a dictum which rejoices in the indiscriminating support of some distinguished men. '*It is impossible to establish an unalterable ratio between the two metals.*' A dispassionate consideration will, I think, show that this dictum is likewise true to a slight extent, and untrue to a very great extent. And this modicum of truth, like the skin of the Dead Sea Apple, is on the outside, and, intercepting the glance, deceives the unwary eye. Does not this dictum stand, in fact, upon the same level with the doctrine, '*it is impossible for a man to draw a line absolutely straight;*' or is it not, in truth, parallel with the denial of the possibility that the world can show two things which are exactly alike.

"Undoubtedly, if the civilized nations were to join in coinage of both metals at one ratio, a small proportion of the total of exchanges of the metals might still be made at a different ratio. Human free will is not likely to abdicate its privileges in favor of a Coinage Treaty. Of course, a single exchange made anywhere in the world, at a ratio above or below that fixed by the supposed Treaty of Christendom, would make the desired break in the uniformity. When the strain is from one end to the other, the strength of a chain is that of its weakest link. Of course, no matter where the break is in the line, if there be a break the line is not absolutely straight. If two objects be in ever so slight degree dissimilar, their identity disappears. So it is true that it is impossible to establish in permanence and universally a fixed ratio between the metals, as it is true that no one can draw a line absolutely straight or show two things that are exactly alike.

"But at the same time this so-called impossibility of a fixed ratio between the two metals is as unworthy to support a statesman in denying the possibility or desirability of a successful establishment of a fixed ratio, as the impossibility of making any thing straight, or of making two things alike, is unworthy to prevent the construction of machinery and works of engineering. Machinery and engineering works all demand, for their perfection, straight lines and identity between different parts. At the same time, substantial straightness, substantial identity, will suffice. In practice, the infinitely small can be neglected by the engineer and mechanician; why not by the statesman, why not by the economist?" From "The Position of Law in the Doctrine of Money." Document of the Monetary Conference of 1878.



ket. The nature of the case, we may add, suggests an alternative or analogous question: Was it, in Newton's opinion, probable, that the ratio represented by this fixation of the guinea at twenty-one shillings would, on an average, during the series of years next following 1717, diverge but slightly from the market rates of exchange of the two metals.

It will be well, in considering the question, briefly to survey the monetary problem of which this fixation of the legal value of the guinea, as a debt-paying coin, was intended to be, for the time, a solution.

The standard Unit of Coinage in English law was the pound sterling of twenty silver shillings. The weight of the shilling had last been fixed in the forty-third year of the reign of Queen Elizabeth. The Gold coins struck in the mints were from time made current at a valuation referring to the Silver Unit; as the equivalent, that is to say, of so and so many shillings.

The guinea, the gold coin with which the Legislator of 1717 had chiefly to do, had been originally coined as a 20 shilling piece. It had however, in time, owing to events which we need not now enter upon, come to be current as the equivalent of 21 shillings and 6 pence. In 1717, therefore, the legal ratio of England was not far from  $15\frac{1}{2}$  to one.

This valuation was an erroneous one: as legal tender, Gold was by this valuation made worth  $15\frac{1}{2}$  times its weight in Silver coin, whereas, in fact, in the world's markets the metal Gold was worth less than 15 times its weight in Silver. Under the statutes regulating the mints, any person could have either metal coined at the expense of the State. Hence it became more profitable, in England, for owners of bullion to have Gold, than to have Silver, coined; and those who had payments to make in England were naturally led to purchase Gold, rather than Silver bullion, to be taken to the mint.

Gold was becoming more plenty, Silver was disappearing.

Upon this, in the winter of 1717-18, the Commons and the Lords, went severally into "Grand Committee on the State of the Nation," to consider the scarcity of Silver specie, the exportation of Silver, and the importation of Gold; while in the Commons it was resolved "that an humble address be presented to His Majesty, That he will be graciously pleased to give directions, that the Representations made by the officers of the Mint to the Lords Commissioners of the Treasury, in relation to the Gold and Silver Coins of this Kingdom may be laid before this House."

These consisted of letters of Sir Isaac Newton, then Master of the Mint, to the Lords of the Treasury, written, as he says, in obedience to an "order of reference, of August 12th, that I should lay before your Lordships a State of the Gold and Silver Coins of this Kingdom, in weight and fineness, and the value of Gold in proportion to Silver, with my observations and opinions; and what method may be best for preventing the melting down of the Silver Coin."

The outcome of the debate was an Address of the Commons, and a Proclamation of the King, to the effect, as prayed for, that no one should, on pain of proper penalty, give or receive a guinea for more than 21 shillings; while, in the Lords, a resolution was passed, that "no alteration should be made in the standard of the Gold and Silver Coins of this Kingdom in fineness, weight, or denomination." The reader will note that this did not preclude a future change in the valuation of the guinea, for the guinea had, properly speaking, no denomination, the money of account being the pound sterling of 20 silver shillings. The law of legal tender being, at that date, still embraced *inter jura majestatis*, the Proclamation above mentioned established the guinea as the lawful equivalent of 21 silver shillings, without prejudice, of course, to a further use of prerogative in subsequently altering its valuation; Silver remaining, of course, to use the forcible expression of

Newton, as reported by Cantillon, "according to the fundamental laws of the realm, the sole true money." So long, however, as the law, so made, remained in force the gold coins were to remain a lawful means of payment, at the rate of 21 shillings to the guinea.

The practical result at the time, therefore, was the Silver and Gold Standard (or what is now unfortunately called the "Double" Standard), at 15.21 to 1, the equation, 15.21 weights of silver = 1 weight of gold, being the equivalence of the value of the metals when a guinea is held equal to 21 silver shillings, of the "standard of Elizabeth." The working of this fixation was not, however, such as to entitle the measure to be regarded as successful. The guinea was not worth 21 shillings in the metal market in 1717, nor did it, indeed, at any time, reach that price till the close of the century, when events which I will not now enter upon,<sup>7</sup> raised Gold to an equivalence, in the market, with 15.21 times its weight in Silver. The situation, therefore, which Parliament deplored, and sought to remedy in 1717, prevailed throughout the century. The "standard of Elizabeth" was debased,<sup>8</sup> by the acceptance, throughout England, of a Pound Sterling that was not worth 20 shillings in the sole true money of the Kingdom; and this cheaper pound sterling remained the chief money in use until after surrendering its function, for a

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<sup>7</sup> I have set forth some researches on this subject in a paper on the Rise of the Silver Price of Gold, between 1770 and 1830, in the Document of the Monetary Conference of 1878.

<sup>8</sup> "It is absurd to say that the standard of Queen Elizabeth has not been debased by enacting that the English Unit shall be acquitted with 113 grains of fine Gold, as it would be to affirm that it would not be debased from what it is at present by enacting that a pound of butter should everywhere be received in payment for a pound sterling, although the pound sterling should continue to consist of 3 ounces, 17 pennyweights, and 10 grains of standard Silver, according to the statute of 43 Elizabeth. I believe in this case most debtors would pay in butter." \* \* \* [Sir James Steuart. *Principles of Political Economy*, 1773.]

time, to paper bank-notes, and after rising to more than equivalence (see preceding note) with the true pound sterling, it finally replaced, in 1816, under the guidance of the first Lord Liverpool and of his successors, its heavier, and now, under the altered state of demand, less valuable predecessor, and became, by force of a new law, the "sole true money of the Kingdom."

We can now restate our questions even more clearly.

What importance is to be attributed to Cantillon's statement that the fixation of 1717, which he calls Newton's reduction of the guinea, was not calculated "to fix, between the Gold and Silver Moneys, the veritable proportion of their price," but that the measure was merely "calculated to prevent the removal of the worn pieces which still remained in circulation?"

It is evidently nothing more than the obvious remark which any one versed in money who knew the facts, would naturally make.

So far as Newton is concerned, this statement is substantially a mere reproduction of what Newton had written in his Report about the proposition to fix the guinea at 21s.

The guinea, he says, by the course of trade and exchange between nation and nation in all Europe is worth between 20s. 5d. and 20s. 8½d.: if the guinea were lowered to 20s. 6d. or 20s. 8d. there would be no temptation to export Silver from England; if it were only lowered to 21s. the temptation to export or melt down the silver coin would be diminished and time would be given to see what further reduction would be necessary.

After such a statement as this what could Newton himself have said in 1727 or earlier, about the market prices of recent years and the legal ratio of 1717, except to deny that Parliament had meant to fix the guinea at its market price as it then stood: and after having said to Parliament, alarmed as it was

about the exportation and scarcity of Silver, that if they wished to prevent this exportation (the preventing of which implied of course that Silver would come to the mints to be coined and hence that the stock of silver coin would be replenished and kept full) they must lower the guinea to 20s. 6d. or 20s. 8d., what more natural than to state the well-known fact that the reduction to 21s. had only the effect of keeping the worn coins at home? Had he not already suggested in his Report that a reduction to 21s. would be a mere experimental halting ground from which it would be seen what further reduction would be necessary?

So far therefore from possessing either the novelty, or the importance, or the doctrinal meaning which Prof. Jevons ascribes to them, these passages of Cantillon, characterizing this measure, which Prof. Jevons takes to be a "distinct disclaimer of Bi-metallism," are entirely innocent of such claims to attention and, indeed, are observations which must occur so naturally to any one discussing the subject as to be entirely insignificant.

With this it would seem that the mandate which I have accepted to examine the alleged "distinct disclaimer of Bi-metallism" on the part of Newton and of Cantillon is fulfilled.

Having proceeded thus far, however, the reader may perhaps be desirous of looking further, and of inquiring more closely into other utterances of Newton and of Cantillon.

The object of Newton's Report has already been mentioned. The end of the whole matter he states as follows :

"So then, by the course of trade and exchange between nation and nation in all Europe, fine gold is to fine silver as  $14\frac{1}{2}$  or 15 to one; and a guinea, at the same rate, is worth between 20s. 5d. and 20s. 8 $\frac{1}{2}$ d., except in extraordinary cases, as when a Plate fleet is just arrived in Spain, or ships are lading here for the East Indies, which cases I do not here consider: And it appears by experience, as well as by reason, that silver flows from those places, where its value is lowest in proportion to gold, as from Spain to all Europe, and from all Europe to the East Indies, China, and Japan; and that gold is most plentiful in those places, in



which its value is highest in proportion to silver, as in Spain and England.

"It is the demand for exportation which hath raised the price of exportable silver about 2*d.* or 3*d.* in the ounce above that of silver in coin, and hath thereby created a temptation to export, or melt down, the silver coin, rather than give 2*d.* or 3*d.* more for foreign silver; and the demand for exportation arises from the higher price of silver in other places than in England in proportion to gold; that is, from the higher price of gold in England than in the other places in proportion to silver; and therefore may be diminished, by lowering the value of gold in proportion to silver: If gold in England, or silver in East India, could be brought down so low as to bear the same proportion to one another in both places, there would be here no greater demand for silver, than for gold to be exported to India; and if gold were lowered only so as to have the same proportion to the silver money in England which it hath to silver in the rest of Europe, there would be no temptation to export silver rather than gold to any other part of Europe: And to compass this last, there seems nothing more requisite than to take off about 10*l.* or 12*d.* from the guinea; so that gold may bear the same proportion to the silver money in England, which it ought to do by the course of trade and exchange in Europe; but if only 6*d.* were taken off at present, it would diminish the temptation to export, or melt down, the silver coin; and, by the effects, would show hereafter, better than can appear at present, what further reduction would be most convenient for the public."

In another part of the Report he says :

"If things be let alone till silver money be a little scarcer, the gold will fall off itself; for people are already backward to give silver for gold, and will, in a little time, refuse to make payments in silver without a premium, as they do in Spain; and this premium will be an abatement in the value of the gold; and so the question is, Whether gold shall be lowered by the government, or let alone till it falls of itself, by the want of silver money. It may be said, that there are great quantities of silver in plate; and if the plate were coined, there would be no want of silver money: But I reckon, that silver is safer from exportation in the form of plate than in the form of money, because of the greater value of the silver and fashion together; and therefore I am not for coining the plate, till the temptation to export the silver money, which is a profit of 2*d.* or 3*d.* an ounce, be diminished; for as often as men are necessitated to send away money for answering debts abroad, there will be a temptation to send away silver rather than gold, because of the profit, which is almost four per cent.; and, for the same reason, foreigners will choose to send hither their gold rather than their silver."

The reader will not have failed to note how remote from doctrinal speculation or dogmatic statement, how eminently

practical are these utterances, how clear the information they impart. He will also observe that they are entirely "non-committal:" they show a dispassionate examination of various lines of action possible for the personages to whom they were addressed, and withal a politic abstinence from advocacy of any of them not unnatural in a Master of the Mint, already 75 years old, and whose reputation did not depend upon further achievements in the way of monetary statesmanship.

Three courses of action are briefly considered: the one that the guinea be reduced to 20s. 6d., or 20s. 8d.; the second, that it be reduced to 21s.; the third, that nothing be done for the present, in the hope that Silver will circulate at a premium.

As for the second alternative, the measure actually adopted afterward, Newton does it simple justice as a half-way measure: he says, with his sound sense, if you fix the guinea at 21 shillings, you will be able to judge by the effects what further reduction will be expedient.

This latter remark of Newton's brings clearly to our eyes what was then and later in the century the main motive for disturbing the law as it stood: namely, the desire to keep up the circulation of Silver.

Not merely does Newton recognize that it will be necessary for Parliament to interfere again ere long in regulating the valuation of the guinea, but he expects a further reduction of its legal value.

It is plain in fact that the permanence of the fixation of 1717—for "guinea" is still the name for 21 shillings in England—was in no sense in Newton's plan. Dying, as he did, at the age of 85, in 1727, he is necessarily entirely free from responsibility for, or complicity with, the *laches* of Parliament throughout the century that followed, in failing to cure the ills of England's monetary situation by a further reduction of the guinea.

It is mere justice to the fame of the Director of the great Recoinage of 1696, to point out that his own recorded statements relieve him of this charge.

As for the third alternative, that England should recur to the Gold-token policy, of which she had already some experience, and which had caused the monetary disorders of Spain and Portugal, that she should leave things as they were till people should come to treat the Gold and Silver coins, not as one money of two kinds, but as two different sorts of money, and so put Gold at a discount or Silver at a premium: it is equally contrary to Newton's principles to propose this hap-hazard policy in permanence. Politic it might seem to him to present his views of what might happen if Parliament did nothing to relieve the situation: but at his age and with his character he was the last man in England to assist in this permanent debasement of the English standard.

There remains the first alternative, a reduction of the guinea to 20s. 6d. or 20s. 8d. This would have meant substantial adoption of the French ratio: a fixation which, as I have elsewhere shown,<sup>9</sup> secured to that country for more than fifty years that acknowledged desideratum of monetary policy, a concurrent and full circulation of Silver and Gold. We here approach distinctly "bi-metallie ground." While I distinctly share with some writers of the last century, with Nicholas Magens and Sir James Steuart, and with Cantillon, to whom, by the way, I may appeal, upon the pedestal where Prof. Jevons has placed him, the opinion that a measure of further reduction like this ought to have been adopted, either directly in 1717 or later (in the latter case making the reduction of the guinea by steps rather than by a

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<sup>9</sup> In a paper on "The concurrent circulation of the two metals in France under the ratios of 14½ and of 15½," in the Document of the Monetary Conference of 1878.

single fall); it seems but natural to accord to Newton the credit of an equal perception of its propriety. It is obviously so entirely in keeping with the views expressed in his report, so completely in consonance with his conscience in maintaining the standard of Elizabeth, that I have felt justified in according this honor to his name: though, of course, of absolute advocacy, of unequivocal adhesion on his part, we have no record.

As for the significance of Newton's attitude toward this matter of the concurrent use by the nations of Silver and Gold, I can best point its moral by suggesting to the thoughtful reader, if a quotation from myself be allowable,<sup>10</sup> the question whether the great desideratum of all Monetary Policy, stability of value, security in exchange, which was the goal which the United States set before Europe in calling the Conference of 1878, might not, in some fruitful measure, have been attained long ago, and preserved for after generations, had England, by adopting in full the advice of Newton, attained a close approximation to unity with France, then at  $14\frac{1}{2}$ , in 1717; or had France obeyed the guide which the market rate subsequently afforded her, and adopted the ratio of 15; or again, had not the United States, in 1834-7, passed by the counsel of her soundest advisers, and neglected to adopt the ratio of 15.62.

Three separate times, one might say, the world has stumbled upon the treasure of unity of ratio, yet has never recognized it nor possessed itself of it.

England had her opportunity in 1717; France in 1785 and 1803; the United States between 1834 and 1837.

Has any thing been gained by the failure to improve them?

Is it not indeed a melancholy fact that the mere numerical fitness for use of round numbers as compared with fractions: the

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<sup>10</sup> Introduction to "Contributions to the Study of Monetary Policy," in the Document of the Monetary Conference of 1878.

superiority of 21 over  $20\frac{1}{2}$  due to mere convenience, which obviously not only caused the selection of the number 21, but aided materially in securing its retention in the valuation of the guinea, concealed a fatal facility for checking the tide of monetary progress to which Newton was ready to give sway.

Of course as far as Bi-metallism is concerned, to recur to the locution used by Prof. Jevons, and against which we have protested, it is plain that one may quote Newton just as one quotes Aristotle, Julius Paulus or Copernicus or Locke, or the sound writers of the last century.

Living as they did, be it remembered, at a time when the amount of silver in the hands of man was many times greater in comparison with the gold than it is now, and before Lord Liverpool had inaugurated his movement toward balancing the pyramid of monetary circulation upon its apex: before the rise of that scholastic exerescence of the *Laissez-faire* theory in economic science which denies to laws of coinage and legal tender any agency in creating demand for commodities used as money, the concurrent existence of the two kinds of money was taken for granted. No one proposed to demonetize either of them. True, there were "mono-metallists" in these earlier days before Lord Liverpool, if we use a locution which, after the foregoing explanation, is harmless, but they were sane mono-metallists, so sane that they were substantially bi-metallists.

Their sole metal, Silver, of which the Single Standard was to be made, was at the base, not at the apex, of the pyramid of the world's circulation and of its valuations: it was the heavier metal in the first place, and its serving as the standard true money to be hoarded and kept comparatively stationary, was entirely compatible with an active circulation of the lighter metal as a trade coin, an international means of exchange in the form of ducat, pistole and the like. Moreover, Silver, as I have said, was overwhelmingly the more abund-



ant metal, the outpouring of the gold treasures of Brazil and Siberia, California and Australia being still a thing of the future.

In fact, seeing that in the countries where Gold was full legal tender the Unit of Coinage was Silver, in other words Silver was recognized as the fixed, Gold as the variable, factor in the legal valuation, even the Double Standard approached in some features the Single Standard, while the Single Standard, with its full employment for the non-Standard metal, met the Double Standard half way.

While, therefore, there was thus throughout the world in the days antedating the innovation which Lord Liverpool naturalized in England, a substantial concordance of legislation fixing the status of the two money metals, there was in the comparative simplicity of the problems which lay before the monetary-thinker an analogous absence of those conflicts of theory traceable to that innovation. The main features, however, of the Institution of Money, of the Problem of Silver and Gold, were always present to his regard.

Newton was, then, no protomartyr of International Monetary Union; there is no evidence that the idea of a Monetary Union with France appealed to him strongly, nor was it natural that it should do so. What I have called the seigniorial system of coinage still obtained in that country; while in England the Laws of Parliament had made coinage gratuitous and free, and the Royal Prerogative embraced substantially only the fixation, on advice and request of the Commons, of the legal rating of the gold coins, in France coinage was still embraced within the powers of the crown. The mint was managed in the interest of favorites, and coinage was neither gratuitous nor free. An advance to more settled conditions was naturally necessary before the idea of an international establishment of Money could be developed.

We now turn, lastly, to an alleged discovery, which, if true, is certainly interesting, of a tie of prophecy between Cantillon and Lord Liverpool.

Is it possible that the framer of the cradle of economics was a prophet or a precursor of Lord Liverpool, as the passage already quoted from Prof. Jevons' article alleges him to be? In connection with the curious circumstance here alleged by Prof. Jevons, we may also conveniently inquire whether any opinions are advanced by Cantillon which are rejected by Bi-metallists of to-day.

It appears, on examination of the passage cited from the *Essai*, that Cantillon puts great weight, as all good thinkers do, upon the price of the metals in the market, and finds fault with the measures of 1717 because they failed to reduce the legal ratio to that of the market. So far, I am bound to say, as a Bi-metallist, that I think he was right. He objects, however, to the *modus operandi* adopted by Newton in changing the ratio. He thinks the ratio should have been changed by cutting off the proper percentage from the weight of the Silver coin rather than by adding to the weight of the Gold through a lowering of its valuation.

He thought and proved that it was for the time more economical to diminish the amount of Silver necessary to pay a debt than to increase the amount of Gold necessary for that purpose. The old-fashioned honesty of Newton's objection, that it would not do to debase the Standard Unit of Coinage, finds no favor with the ex-Parisian merchant: it was here that in his view, Newton "sacrificed the substance to the form."

I must here say that I side with Newton. I may add that I am reminded by this trait of Cantillon of the story which Prof. Jevons gives of his encounter with his brother adventurer in Paris, the Scotchman, John Law, whose jealousy of him, in the early days of his power, led him to offer Can-

tillon the option of leaving France in 24 hours or entering the Bastille. Cantillon, according to the story, appeared deep in meditation, and finally said: "Look you here, I shall not go, but I will undertake to make your system a success," and it appears that he was of material aid in furthering the schemes of Law.

But to return: Cantillon, in addition to his recommendation of  $14\frac{1}{2}$ , the French ratio, goes on to say that it "will be necessary to introduce it in England sooner or later." It is here that Prof. Jevons finds, as he says, a "distinct prophecy of that which was carried into effect in 1815, at Lord Liverpool's recommendation, and which is still, and probably always will be, the fundamental point in the regulation of our metallic money."

But what is it that is prophesied?

Is it the debasement of the Standard Unit of Coinage by reducing its weight?

This is the main point with Cantillon: No charge, however, of directly debasing the Unit need disturb the fame of Lord Liverpool. The wrong charged to him is directly the contrary one: an enhancement of the Unit by replacing the Silver with a Gold Unit, which worked injustice to all debtors, and harm to England.

Was it the adoption of the French Double Standard ratio that was prophesied?

This is the only statement of Cantillon directly in the form of a prophecy, and yet I am not aware that England has ever "established the money on the footing of 1 to  $14\frac{1}{2}$ , as was done in 1725 in France." *Adsit omen!* the prophesy may in time reach fulfillment in the mode urged by Lord Ashburton, then Alexander Baring, 50 years ago,<sup>11</sup> and by the Bi-metallists to-day, in the restoration of the Double Standard at the

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<sup>11</sup> See his evidence, taken before the Committee for Coin, April 26, 1828. Document of the Monetary Conference of 1878.

present French ratio. But what interest has Lord Liverpool in the prophesy? May we not, in fact, feel justified in assuming that here Professor Jevons has suffered that relaxation of attention hallowed in the proverbial *aliquando bonus dormitat Homerus*?

We may, it is true, find in Lord Liverpool's System a semblance of analogy with the situation foreseen by Cantillon. In reducing the crowns and shillings to the rank of Subsidiary Coin, legal Tender only up to 2 pounds, the act of 1816 established a Mint charge which reduced the weight of 20 Silver Shilling Tokens to about 14 times that of a Sovereign. There was, therefore, as there is now, in the English System a "ratio," if so we choose to characterize it, between the Gold and the Silver coins: but this "ratio," so far from constituting a fundamental point of the system, is entirely subordinate and unimportant.

The fundamental point of the system lies, of course, in the Protective Tariff upon Silver Money, in the statutory exclusion of Silver from its birthright as English Money, its restriction to gold coins of the privilege of being, in the words of the Act, "the Standard Measure of Value and Legal Tender for Payment, without any limitation of Amount," with its complement the reduction of silver coins to a legal tender power of only two pounds, and the subjection of its mintage to a heavy charge. Under such a system, the precise weight of the shilling-token, whether 20 shilling-tokens should weigh 15 times, or 14, or 13, or 12 times as much as the new pound sterling, the "sovereign," instituted in 1816, is a matter of comparative indifference.

We may therefore definitely dismiss all idea of Cantillon's being either a precursor of Lord Liverpool, or a prophet of the appearance of his system; and with this we may also effectually dispose of the idea that Cantillon in any way rejected the doctrines which bi-metallists present as true to-day.

That in the fixation of a new legal ratio, regard should be had to the existing rates of exchange in the markets, is a plain dictate of common sense, and in no wise the discovery of Cantillon.

The correction which should be added to Cantillon's remarks on this subject consists merely in the recognition "that the market rate of exchange is itself, to a preponderating degree, a resultant of conflicting demands for the metals respectively, for use as Money; and is not merely, as the magistral economy until lately in vogue would have us believe, a mere index of some supposed preference of mankind for their respective use in the industrial arts; nor again, a reflex of an altered cost of production, or of a fluctuation in the yield of the mines for a few preceding years."

Practically, however, Cantillon, in urging the importance for England of her adoption of the French ratio, placed himself among the promoters of the changes which the Bi-metallists are urging to-day; and his is therefore another voice from the past condemning those opponents of Bi-metallism to-day, among whom it is a matter of surprise that so eminent an economist as Prof. Jevons should still prefer to be numbered.





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A chapter on the "Conditions of Successful Resumption" sums up the various practical conclusions which the writer conceives to have been established.

In the Appendix follows a series of analytical discussions of a number of questions which demand detailed and separate consideration; and a list is given, for the convenience of the student, of the most notable works upon Silver and Gold in the literature of the different nations.



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# THE MONETARY SITUATION

## AN ADDRESS

DELIVERED BY REQUEST OF THE AMERICAN SOCIAL SCIENCE  
ASSOCIATION AT ITS MEETING IN CINCINNATI,  
MAY 21, 1878.

By S. DANA HORTON,

Author of "Silver and Gold, and their Relation to the Problem of Resumption."

## WITH AN APPENDIX

CONTAINING EXTRACTS FROM THE FOLLOWING PAPERS BY THE SAME AUTHOR:  
THE PRUSSIAN ANTI-SILVER THEORY, AND ITS ORIGIN IN AN HISTORICAL  
ERROR.  
GENERAL RESTORATION OF SILVER A CONDITION PRECEDENT TO SUCCESS-  
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A VINDICATION OF THE PRACTICABILITY OF BI-METALLIC UNION.

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DOCUMENT OF THE MONETARY CONFERENCE OF 1878.

# INTERNATIONAL MONETARY CONFERENCE

HELD IN COMPLIANCE WITH THE INVITATION EXTENDED  
TO CERTAIN GOVERNMENTS OF EUROPE BY THE GOV-  
ERNMENT OF THE UNITED STATES, IN PURSUANCE  
OF THE SECOND SECTION OF THE ACT OF CON-  
GRESS OF FEBRUARY 28, 1878, IN PARIS, IN  
AUGUST, 1878, UNDER THE AUSPICES OF  
THE MINISTRY OF FOREIGN AFFAIRS  
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## PROCEEDINGS AND EXHIBITS,

FOLLOWED BY THE REPORT OF THE AMERICAN COMMISSION  
AND AN APPENDIX

CONTAINING CORRESPONDENCE SUBMITTED TO THE DEPARTMENT OF STATE  
BY MR. FENTON, AND HISTORICAL MATERIAL FOR THE

## STUDY OF MONETARY POLICY

CONTRIBUTED BY

**MR. HORTON.**

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